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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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VMWARE, INC. DARRYL SMITH 3401 Hillview Ave. PALO ALTO, CA 94304			EXAMINER KENNEDY, EDWARD JEROME	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

AK

Office Action Summary

Application No.

10/773,613

Applicant(s)

SCALES ET AL.

Examiner

E. Jerry Kennedy

Art Unit

2169

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 15-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 30-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 15-29 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>N/A</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following is required under 35 USC 121:

I. Claims 1-14 and 30-39 are drawn to a method for access to a first data entity in a file system, class 707, subclass 10.

II Claims 15-29, are drawn to a computer system containing a virtual machine utilizing locking mechanisms to provide exclusive access to a data entity, class 707, subclass 8.

2. The inventions are distinct from each other for the following reason:

Invention I is related to attempting to access a first data entity in a file system and has separate utility from Invention II is related a lock for providing exclusive access to a first and second virtual machine running on a first and second physical computer, respectively, wherein the first and second physical computer are connected to a data storage unit.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. During a telephone conversation with Mr. Darryl Smith on 12/18/2007 a provisional election was made without traverse to prosecute the invention of group I, claims 1-14 and 30-39. Affirmation of this election must be made by applicants in replying to this Office action. Claims 15-29 (Group II) are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

8. Claims 1-14 and 30-39 are pending in this application and presented for examination.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-3, 5-7, 9, 11-12, 14, 30-35 and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthridge et al. (US 7,124,131 B2), granted October 17, 2006, filed April 29, 2003, hereinafter Guthridge, in view

of Taylor (US 7,107,267 B2) Method, System, Program, and Data Structure for Implementing a Locking Mechanism for a Shared Resource, granted September 12, 2006, filed January 31, 2002, hereinafter Taylor.

11. In regard to claim 1, Guthridge discloses a method for attempting to access a first data entity in a file system as a method for reasserting a lock in a distributed file system (column 2, lines 1-2), the method being performed by a first computing entity, the file system also including one or more additional data entities that are concurrently accessible to at least one other computing entity, the file system including an owner field that can be used to determine whether the first data entity is leased by a computing entity and a time field that can be used to determine whether a lease for the first data entity has expired, the method comprising:

attempting to obtain a lease on the first data entity by performing the reading the owner field as a query is conducted to determine if a lock manager data structure exists (Guthridge, column 4, lines 29-31, Fig. 3A, element 70) and:

if the owner field indicates that the first data entity is

not currently leased, writing to the owner field to indicate an assumption of a lease of the first data entity as if the lock data structure does not exist, a new lock manager data structure for the identified object is created (Guthridge, column 4, lines 33-35, Fig. 3A, element 76), client node identifier associated with the lease (Guthridge, column 6, lines 57-58), and writing to the time field to indicate when the lease expires as return file system epoch number of the lock (Guthridge, column 4, lines 58-59); or

if the owner field indicates that the first data entity has been leased, reading the time field as a response to query indicating a current lease, return epoch number of the lock (Guthridge, column 4, line 58-59, Fig. 3A, element 82) and: if the time field indicates that the lease has expired, writing to the owner field to break the existing lease as if a client node requests a lock with an expired lease, requesting client node may recover the lock lease (Guthridge, column 4, lines 26-29), expired lease is deleted (Guthridge, column 5, line 32-33) and to indicate an assumption of a new lease as flag is set (Guthridge, column 5, lines 31-32, Fig. 3B, element 96) and writing to the time field to indicate when the new lease expires as

locks have a lease for a limited time period (Guthridge, Abstract, lines 2-3), hold lock for a set lease period (Guthridge, column 8, lines 23-24); or if the time field indicates that the lease is still active, concluding that the first data entity is currently unavailable as if there is a conflict, the lock request is denied (Guthridge, column 6, lines 66-67); and if a lease is obtained, accessing the first data entity while the lease is in effect as once the client node holds a distributed lock the client node can access the data (Guthridge, column 1, lines 30-32), however Guthridge does not specifically disclose reading and writing to a time field.

12. On the other hand, Taylor discloses a lease data structure with a lease start time (Taylor, column 5, line 46, Fig. 3, element 104), lease length (Taylor, column 5, lines 45-46, Fig. 3, element 106) and determining that the lease time has expired (Taylor, column 2, line 34).

13. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the lease time of Taylor for reading the time field, determining if the time field

indicates that the lease is still active and writing to the time field because a granted access would cease when the lease expired (Taylor, column 5, lines 44-45). It is also noted that both Guthridge and Taylor are from file management, and more specifically access management (Guthridge, Abstract: lines 1-2, locks in a distributed file system, Taylor, Abstract: line 2-3, locking mechanism to control access to a shared resource).

14. In regard to claim 2, Guthridge discloses the method wherein the **first data entity is a file** as client can access the data for the file (column 1, lines 31-32).

15. In regard to claim 3, Guthridge discloses the method of wherein the **first data entity includes metadata** as metadata information for the requested file (column 1, line 26) and the **owner field is located in this metadata** as attributes of a file, such as owner, group, mode, etc. maintained in client node data cache (column 7, lines 17-18).

16. In regard to claim 5, Guthridge discloses the method of claim 1, wherein the step of **writing to the owner field to indicate an assumption of a lease of the first data**

entity comprises writing a data value to the owner field that uniquely identifies the first computing entity as a unique client node identifier is assigned to the client node when the lease is established (Guthridge, column 3, lines 19-21).

17. In regard to claim 6, Guthridge discloses the method wherein the data value that uniquely identifies the first computing entity is determined autonomously by the first computing entity as manager adapted to control a lock version number (Guthridge, column 2, lines 16-18).

18. In regard to claim 7, Guthridge discloses the method wherein the owner field indicates that the first data entity is not currently leased when the owner field contains a value of zero as lock is downgraded to 'None' indicating the lock should be released completely (Guthridge, column 7, line 44-45).

19. In regard to claim 9, Guthridge discloses the method wherein the first computing entity determines whether a prior lease has expired by reading a first value from the time field as determine if the client requesting the lock already holds a lock (Guthridge, column 4, lines 48-49),

query will return epoch number (Guthridge, column 4, lines 56-59), delaying for a predetermined lease period as new lock requests are denied during a lock reassertion grace period (Guthridge, column 4, lines 19-20) and reading a second value from the time field as current epoch number of file system is read (Guthridge, column 6, line 18, Fig. 4A, element 144), wherein the first computing entity determines that the prior lease has expired if the second value is the same as the first value as determine if epoch number of file system is equivalent to epoch number provided by client node (Guthridge, column 6, lines 26-28, Fig. 4A, element 150), and the first computing entity determines that the prior lease has not expired if the second value is different from the first value as negative response will result in denial of lock assertion (Guthridge, column 6, lines 31-32).

20. In regard to claim 11, Guthridge discloses the method wherein, if the first computing entity concludes that the first data entity is currently unavailable as if the lease has not expired (Guthridge, column 5, line 29, lines 33-34), the computing entity further writes an entry to queue owner field in a list to indicate an interest in accessing

the first data entity as the client node requesting the list is added to a list (Guthridge, column 5, line 35), however Guthridge does not specifically disclose a queue. On the other hand, Taylor discloses a resource queue (Taylor, column 4, line 31, Fig. 3, element 50).

21. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the resource queue of Taylor for the computing entity further writes an entry to queue owner field in a queue to indicate an interest in accessing the first data entity because a resource queue provides a list of I/O requests with respect to a shared resource (Taylor, column 4, lines 34-37).

22. In regard to claim 12, Guthridge does not specifically disclose the method wherein the computing entity also writes to a queue time field to indicate a period of time for which the entry to the queue owner field is valid. On the other hand, Taylor discloses a lease length (column 5, line 57, Fig. 3, element 118).

23. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the

teaching of Guthridge to include the lease length of Taylor for writes to a queue time field to indicate a period of time for which the entry to the queue owner field is valid because if a process granted access would cease access operations when the lease expires (Taylor, column 5, lines 44-45).

24. In regard to claim 14, Guthridge discloses the method wherein, if a lease is obtained, the first computing entity also sets a renewal timer as locks have a lease for a limited time period (Guthridge, Abstract, lines 2-3) and, after the renewal timer expires, the first computing entity renews the lease by writing a new value to the time field as client node may reassert a lock for a lease that has expired (Guthridge, column 6, lines 13-14, Fig. 4A, element 158).

25. In regard to claim 30, Guthridge discloses a method for attempting to access a first data entity in a file system as a method for reasserting a lock in a distributed file system (Guthridge, column 2, lines 1-2), the method being performed by a first computing entity, the file system also including one or more additional data entities that are concurrently accessible to at least one other

computing entity, the file system including an owner field that can be used to determine whether the first data entity is in use by a computing entity, the method comprising: reading the owner field and determining whether the first data entity is in use by a computing entity as a query is conducted to determine if a lock manager data structure exists (column 4, lines 29-31, Fig. 3A, element 70); if the first data entity is not in use by a computing entity, writing to the owner field to take control of a lock on the first data entity as if the lock data structure does not exist, a new lock manager data structure for the identified object is created (column 4, lines 33-35, Fig. 3A, element 76), client node identifier associated with the lease (column 6, lines 57-58); and if control of the lock is obtained, accessing the first data entity as once the client node holds a distributed lock the client node can access the data (column 1, lines 30-32); or if control of the lock is not obtained as if the lease has not expired (Guthridge, column 5, line 29, lines 33-34), writing an entry to a *list* owner field to indicate an interest in accessing the first data entity and waiting for an opportunity to access the first data entity as the

client node requesting the list is added to a list (Guthridge, column 5, line 35), however Guthridge does not specifically disclose a queue. On the other hand, Taylor discloses a resource queue (Taylor, column 4, line 31, Fig. 3, element 50).

26. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the resource queue of Taylor for writing an entry to a queue owner field to indicate an interest in accessing the first data entity and waiting for an opportunity to access the first data entity because a resource queue provides a list of I/O requests with respect to a shared resource (Taylor, column 4, lines 34-37).

27. In regard to 31, Guthridge discloses the method further comprising, if the first data entity is in use by a computing entity, reading a time field to determine whether a lease on the data entity has expired as a response to query indicating a current lease, return epoch number of the lock (Guthridge, column 4, line 58-59, Fig. 3A, element 82) and, if the lease has expired, writing to the owner field to break the existing lease as if a client node

requests a lock with an expired lease, requesting client node may recover the lock lease (Guthridge, column 4, lines 26-29), expired lease is deleted (Guthridge, column 5, line 32-33) and to indicate an assumption of a new lease of the first data entity as flag is set (Guthridge, column 5, lines 31-32, Fig. 3B, element 96).

28. In regard to claim 32, Guthridge discloses the method wherein the first computing entity determines whether the lease has expired by reading a first value from the time field as determine if the client requesting the lock already holds a lock (Guthridge, column 4, lines 48-49), query will return epoch number (Guthridge, column 4, lines 56-59), delaying for a predetermined lease period as new lock requests are denied during a lock reassertion grace period (Guthridge, column 4, lines 19-20) and reading a second value from the time field as current epoch number of file system is read (Guthridge, column 6, line 18, Fig. 4A, element 144), wherein the first computing entity determines that the lease has expired if the second value is the same as the first value as determine if epoch number of file system is equivalent to epoch number provided by client node (Guthridge, column 6, lines 26-28, Fig. 4A, element

150), and the first computing entity determines that the lease has not expired if the second value is different from the first value as negative response will result in denial of lock assertion (Guthridge, column 6, lines 31-32).

29. In regard to claim 33, Guthridge discloses the method further comprising, if the first data entity is not in use by a computing entity, in addition to writing to the owner field to take control of the lock on the first data entity, writing to a field to indicate when a lease of the first data entity expires as locks have a lease for a limited time period (Guthridge, Abstract, lines 2-3), hold lock for a set lease period (Guthridge, column 8, lines 23-24). However, Guthridge does not specifically disclose writing to a time field.

30. On the other hand, Taylor discloses setting a lease start time in a lease data structure (Taylor, column 2, lines 50-51, Fig. 3, element 104).

31. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the start lease time of

Taylor because a granted access would cease when the lease expired (Taylor, column 5, lines 44-45).

32. In regard to claim 34, Guthridge discloses the method wherein the first data entity is a file as client can access the data for the file (Guthridge, column 1, lines 31-32).

33. In regard to claim 35, Guthridge discloses the method wherein the first data entity includes metadata as metadata information for the requested file (Guthridge, column 1, line 26) and the owner field is located in this metadata attributes of a file, such as owner, group, mode, etc. maintained in client node data cache (Guthridge, column 7, lines 17-18).

34. In regard to claim 38, Guthridge discloses the method wherein the first computing entity autonomously determines a data value that uniquely identifies the first computing entity as manager adapted to control a lock version number (Guthridge, column 2, lines 16-18) and the first computing entity assumes a lock on the first data entity by writing the unique data value into the owner field as a unique client node identifier is assigned to the client node when

the lease is established (Guthridge, column 3, lines 19-21).

35. In regard to claim 39, Guthridge and Taylor disclose the method further comprising, if control of the lock is not obtained, in addition to writing an entry to a queue owner field to indicate an interest in accessing the first data entity, however Guthridge does not specifically disclose writing to a time field to indicate a period of time for which the entry to the queue owner field is valid. On the other hand, Taylor discloses a lease length (Taylor, column 5, lines 46-47, Fig. 3, element 106).

36. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to further modify the teaching of Guthridge to include the lease length of Taylor for writes to a queue time field to indicate a period of time for which the entry to the queue owner field is valid because if a process granted access would cease operations when the lease expires (Taylor, column 5, lines 44-45).

37. Claims 4, 10 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthridge and Taylor as

applied to claims 1 and 30 and further in view of
Shaughnessy (US 5,692,178) System and Methods for Improved
File Management in a Multi-User Environment, granted
November 25, 1997, hereinafter Shaughnessy.

38. In regard to claim 4, Guthridge and Taylor disclose
different locks, such as session, data and range locks
(Guthridge, column 3, lines 46-47), however Guthridge and
Taylor do not specifically disclose **wherein the first data
entity is a directory**. On the other hand, Shaughnessy
discloses a plurality of locks types including a directory
lock, (Shaughnessy, column 3, line 48).

39. It would have been obvious to one of ordinary skill in
the art at the time of applicant's invention to modify the
teaching of Guthridge to include the directory lock of
Shaughnessy **where the first data entity is a directory**
because a plurality of lock types are included for
maximizing concurrent access while minimizing corruption
and data loss (Shaughnessy, column 3, line 50-51). It is
also noted that Guthridge, Taylor and Shaughnessy are from
file management, and more specifically access management
(Guthridge, Abstract: lines 1-2, locks in a distributed
file system, Taylor, Abstract: line 2-3, locking mechanism

to control access to a shared resource, Shaughnessy,

Abstract: line 7, controlling concurrent access).

40. In regard to claim 10, Guthridge and Taylor do not specifically disclose the method of wherein the steps of reading the owner field and reading the time field are both performed in a single read operation. On other hand, Shaughnessy discloses a lock file read in a single I/O operation (Shaughnessy, column 19, lines 15-16).

41. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge and Taylor to include the single I/O operation of Shaughnessy for the steps of reading the owner field and reading the time field are both performed in a single read operation because this avoids multiple reads, thus avoiding a performance penalty (Shaughnessy, column 19, lines 24-26).

42. In regard to claim 36, Guthridge and Taylor disclose different locks, such as session, data and range locks (Guthridge, column 3, lines 46-47), however Guthridge and Taylor do not specifically disclose the method wherein the first data entity is a directory. On the other hand,

Shaughnessy discloses a plurality of locks types including a directory lock, (Shaughnessy, column 3, line 48).

43. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge and Taylor to include the directory lock of Shaughnessy where **the first data entity is a directory** because a plurality of lock types are included for maximizing concurrent access while minimizing corruption and data loss (Shaughnessy, column 3, line 50-51).

44. Claims 8, 13 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthridge and Taylor as applied to claims 1 and 30 and further in view of Stakutis et al. (US 6,658,417 B1) Term-Based Methods and Apparatus for Access to Files on Shared Storage Devices, granted December 2, 2003, hereinafter Stakutis.

45. In regard to claim 8, Guthridge and Taylor disclose the method wherein **a lease expires a predetermined period of time after the lease begins** as locks have a lease for a limited time period (Guthridge, Abstract, lines 2-3), and however Guthridge does not specifically disclose **wherein**

the step of writing to the time field to indicate when the lease expires comprises writing a current time value to the time field; although Guthridge does a lease for a limited time period (Guthridge, Abstract, lines 2-3). On the other hand, Stakutis discloses a lease duration referenced to the time of the request (Stakutis, column 10, lines 9-10).

46. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge to include the request time of Stakutis for writing a current time value to the time field because once a lease is granted, clients may let the lease expire rather than closing the session (Stakutis, column 10, lines 41-43). It is also noted that Guthridge, Taylor and Stakutis are from file management, and more specifically access management (Guthridge, Abstract: lines 1-2, locks in a distributed file system, Taylor, Abstract: line 2-3, locking mechanism to control access to a shared resource, Stakutis, Abstract: lines 15-16, access to file on the storage device by generating a "lease").

47. In regard to claim 13, Guthridge and Taylor do not specifically disclose the method further comprising reserving a disk on which the owner field and the time

field are located to ensure exclusive access to the disk for the reading and writing of the owner field and the time field. On the other hand, Stakutis discloses dedicated storage devices.

48. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the teaching of Guthridge and Taylor to include the dedicated storage devices of Stakutis for reserving a disk on which the owner field and the time field are located to ensure exclusive access to the disk for the reading and writing of the owner field and the time field because this allows the client nodes to access the file system without extraneous network communications (Stakutis, column 4, lines 27-29).

49. In regard to claim 37, Guthridge and Taylor do not specifically disclose the method further comprising reserving a disk on which the owner field is located to ensure exclusive access to the disk for the reading and writing of the owner field. On the other hand, Stakutis discloses dedicated storage devices.

50. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the

teaching of Guthridge and Taylor to include the dedicated storage devices of Stakutis for reserving a disk on which the owner field and the time field are located to ensure exclusive access to the disk for the reading and writing of the owner field and the time field because this allows the client nodes to access the file system without extraneous network communications (Stakutis, column 4, lines 27-29).

Conclusion

51. The prior art made of record and not relied upon that is considered pertinent to applicant's disclosure includes Walker (US 7,289,992 B1) Method, System, and Program for Lock and Transaction Management.

52. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward "Jerry" Kennedy whose telephone number is (571) 270-1909. The examiner can normally be reached on M-F, 8-5 EST - Alternate Friday Off.

53. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre Vital can be reached on (571) 272-4215. The fax phone number for the

organization where this application or proceeding is
assigned is 571-273-8300.

54. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EJK
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PIERRE VITAL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100